

WHAT IS CLAIMED IS:

C L A I M S

1. A fracture fixation implant comprising:
a first portion adapted to be implanted within a bone across a fracture site in
said bone,
a second portion integrally formed with said first portion for extending across
said fracture site and extending outside said bone for passing on a superficial surface thereof
such that said first and second portions are juxtaposed with one another, and
a fixation element adapted to be secured to said bone for cooperating with said
second portion to maintain a tension force developed in said second portion for producing
compression of the bone across said fracture site.
2. A fracture fixation implant as claimed in claim 1, comprising a
tensioning device engageable with said fixation element and with said second portion to
develop said tension force and produce compression of the bone across said fracture site.
3. A fracture fixation implant as claimed in claim 1, wherein said first
portion comprises two spaced wires adapted for insertion into said bone, said wires being of a
length for extending out of said bone and being integrally formed with said second portion
which extends backwardly into juxtaposition with the wires of said first portion.
4. A fracture fixation implant as claimed in claim 3, wherein said second

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portion comprises wires continuously formed with the wires of said first portion.

5. A fracture fixation implant as claimed in claim 4, wherein the wires of said second portion cross one another at a position adapted to be on said superficial back surface of the bone.

6. A fracture fixation implant as claimed in claim 4, wherein said wires of said second portion include legs spaced from one another and adapted to pass on said superficial surface of the bone.

7. A fracture fixation implant as claimed in claim 4, wherein the wires of said first and second portions have different diameters.

8. A fracture fixation implant as claimed in claim 7, comprising a smooth transition portion between the different diameters of the wires of said first and second

9. A fracture fixation implant as claimed in claim 4, wherein said wires of said second portion are joined by a U-shaped bend portion at a location distant from where the wires of the first portion exit from the bone.

10. A fracture fixation implant as claimed in claim 9, wherein said U-shaped bend portion and said wires of the second portion are non-planar.

11. A fracture fixation implant as claimed in claim 9, comprising a tensioning device engageable with said fixation element and with said U-shaped bend portion of second portion to develop said tension force acting across said fracture site.

12. A fracture fixation implant as claimed in claim 9, wherein said fixation element comprises a bone screw, and a washer secured by said bone screw in a position adjacent to said bend portion.

13. A fracture fixation implant as claimed in claim 12, wherein said tensioning device is fitted between said washer and said U-shaped bend portion to apply force thereto which urges the U-shaped bend portion away from the washer to produce said tension force in the wires of said second portion.

14. A fracture fixation implant as claimed in claim 3, wherein said wires of said first and second portions are continuous, the wires of said first portion extending in longitudinally spaced relation and joined to the wires of said second portion with bends so that the wires of the second portion extend backwardly in juxtaposed relation with the wires of said first portion.

15. A fracture fixation implant as claimed in claim 5, wherein the wires of said second portion cross one another at a location adapted to be placed over the fracture site.

16. A fracture fixation implant as claimed in claim 12, wherein said

tensioning device is fitted in alignment with said bone screw.

17. A fracture fixation implant as claimed in claim 6, wherein said wires of said first portion extend substantially parallel to one another.

18. A fracture fixation implant as claimed in claim 4, wherein the wires of said second portion extend backwardly for facing a surface of said bone.

19. A fracture fixation implant as claimed in claim 2, wherein said tensioning device comprises a counter-bearing jaw adapted to be secured with respect to the bone and a slidably actuator jaw engageable with said second portion and movable away from said counter-bearing jaw to produce tension in said wire element.

20. A fracture fixation implant as claimed in claim 19, wherein said tensioning device further comprises a pair of gripper arms hingeably connected together and respectively connected to said counter-bearing jaw and said actuator jaw.

21. An implant for applying compression across a fracture site in a bone, said implant comprising:

a wire element having at least one first leg adapted to be implanted longitudinally in a bone across a fracture therein and to extend outwardly of the bone whereat said at least one first leg is joined by a connecting portion to a second leg extending backwardly by which a tension force can be developed in the wire element to produce

compression across the fracture.

22. An implant as claimed in claim 21, wherein said second leg is juxtaposed with said at least one first leg.

23. An implant as claimed in claim 22, wherein said connecting portion comprises a U-shaped bend.

24. An implant as claimed in claim 21, wherein said wire element has two said first legs adapted to be implanted longitudinally in the bone and which are bent backwardly to form two said second legs which are connected together.

25. An implant as claimed in claim 24, wherein said backwardly extending second legs cross one another.

26. An implant as claimed in claim 24, wherein said backwardly extending second legs are spaced from one another.

27. An implant as claimed in claim 21, further comprising a tensioning device engageable with said second leg to develop said tension force in the wire element.

28. An implant as claimed in claim 24, further comprising a washer adapted to be secured to the bone to connect said second legs together and maintain the tension force

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developed in said wire element via said second legs.

29. An implant as claimed in claim 21, wherein said wire element is continuous.

30. An implant as claimed in claim 24, wherein said legs of the wire element which are adapted to be implanted in said bone and the second legs extending backwardly vary in diameter..

31. An implant as claimed in claim 27, wherein said tensioning device comprises a counter-bearing jaw adapted to be secured with respect to the bone and a slidable actuator jaw engageable with said second leg and movable with respect to said counter-bearing jaw to develop said tension force in said wire element.

32. An implant as claimed in claim 31, wherein said tensioning device further comprises a pair of gripper arms hingeably connected together and respectively connected to said counter-bearing jaw and said actuator jaw.

33. An implant as claimed in claim 21, comprising means for securing said second leg to said bone to maintain the tension in the wire element.

34. An implant as claimed in claim 33, wherein the means to maintain the tension in the wire element comprises a washer engaged on said second leg and a bone screw

adapted to be screwed by the bone for securing the washer on said second leg.

35. An implant as claimed in claim 33, wherein the means to maintain the tension in the wire element comprises a hook on said second leg adapted for being impacted into the bone.

36. An implant as claimed in claim 35, wherein said hook is formed by a bend at an end of said second leg.